

ABSTRACT

An electrosurgical electrode and electrosurgical generator system utilizing the same are disclosed capable of controlling or limiting the current per arc in real-time during an electrosurgical procedure. The conductive electrosurgical electrode is configured for being connected to an electrosurgical generator system and has a non-conductive, porous ceramic coating that "pinches" or splits the arc current generated by the electrosurgical generator system into the smaller diameter pores of the coating, effectively keeping the same current and voltage, but creating several smaller diameter arcs from one larger diameter arc. This has the effect of separating the arc current, effectively increasing the current frequency, resulting in a finer cut or other surgical effect. That is, the non-conductive, porous ceramic coating enables a low frequency current to achieve surgical results indicative of a high frequency current, while minimizing or preventing thermal damage to adjacent tissue.